

## America's Electric Cooperatives Set a New Record for Solar Capacity Additions in 2024

### Key Findings

- Co-ops added 1,150 megawatts of new renewable capacity in 2024, virtually all solar.
- Interconnection, permitting, and supply chain challenges delayed many renewable projects.
- Co-op renewable deployment is expected to grow significantly in the next few years.
- There has been an increase in proposed capacity at co-op owned solar projects, driven in part by the availability of direct-pay tax credits.

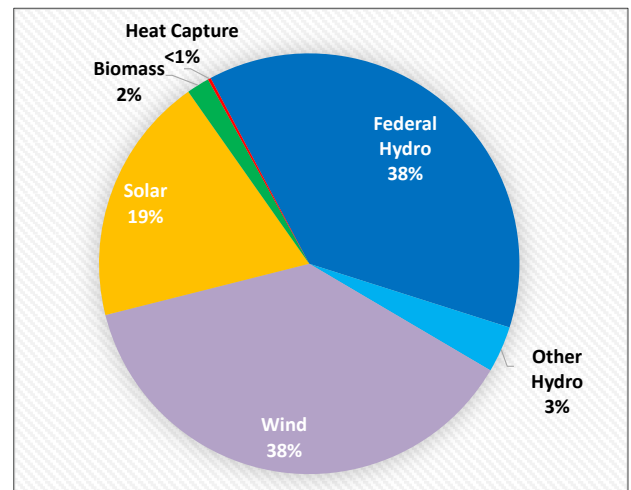
### Electric Cooperatives and Federal Hydropower – A Long History

Electric cooperatives<sup>1</sup> have relied upon federal hydropower since the very beginning, as the growth of rural electrification was intertwined with the growth in federal hydropower, both resulting from economic development “New Deal” programs of the 1930s. Federal hydropower was the largest source of electricity during the early days of rural electrification. Today, co-ops purchase the output from roughly 10 gigawatts of hydroelectric plants sold by the four federal Power Marketing Administrations and the Tennessee Valley Authority.

Most of this power is purchased under the “preference principle,” wherein not-for-profit co-ops and public utilities are given first right of purchase at the lowest possible cost, which provided an early source of affordable power for rural electrification. Federal hydropower is the primary source of power for electric cooperatives in the Pacific Northwest, and it is an important source of power for co-ops across the U.S.

### Renewable Capacity Growth in 2024

With cumulative additions of 1,150 megawatts, 2024 showed robust growth in the cooperative renewable portfolio, though slightly lower than the 1,342 MW added in 2023.<sup>2</sup> This was the fifth year on record where co-ops added more than 1,000 MW of new renewable capacity, though growth was somewhat lower than the more than



**Figure 1: Co-op Renewable Portfolio (including federal hydro) ~26.5 gigawatts (2024)**

<sup>1</sup> While “electric cooperatives” or “co-ops” will be used, these figures include NRECA’s rural public power, tribal, and mutual utility members as well.

<sup>2</sup> Data on cooperative renewable resources are based on NRECA analysis using a variety of public sources.

2,000 megawatts of capacity that was planned to be added in 2025. Ongoing challenges with interconnection, permitting, and supply chains caused many projects to be delayed into 2025 or 2026.

By the end of 2024, co-ops had more than 26.5 gigawatts of renewable capacity<sup>3</sup> in their resource portfolios. This includes 10 gigawatts of preference purchases from federal hydro facilities, and more than 16.5 gigawatts of other resources including wind, solar, biomass, and heat capture technologies, as well as other non-federal hydroelectric generation (see Figure 1). Of those 16.5 gigawatts, more than three-quarters is owned or contracted for by generation and transmission (G&T) cooperatives,<sup>4</sup> with the remainder owned or under contract by distribution cooperatives. Announced projects to come online between 2025 and 2028 total nearly 6.2 gigawatts of additional capacity.

### Co-op Solar Growth Set New Record

Wind generation made up the vast majority of co-op renewable additions over the last two decades, with nearly 10 gigawatts of wind capacity online by the end of 2024. For the first time in more than two decades, no additional wind capacity was added in 2024, but projects totaling more than 1,800 megawatts are scheduled to come online between 2025 and 2028. Most co-op wind capacity is in the Midwest and Texas, where wind resources are most abundant. Co-op and national wind growth slowed after the expiration of most federal tax credits for wind in 2021, but the restoration of tax credits in 2022 contributed towards an uptick in new project announcements.

Solar accounted for virtually all of the 1,150 MW of new renewable capacity added by co-ops in 2024, setting a record for solar added in one year and bringing total co-op solar capacity above 5 gigawatts. With over 4,200 megawatts of new solar capacity planned to come online from 2025 through 2028, solar projects account for a large majority of planned co-op renewable capacity. See Figures 2 and 3. Solar growth has accelerated in large part due to the increasing size of co-op solar projects. This trend began in the Southwest and the West, but co-op solar projects ranging from 50 to 250 megawatts are becoming increasingly common across the country.

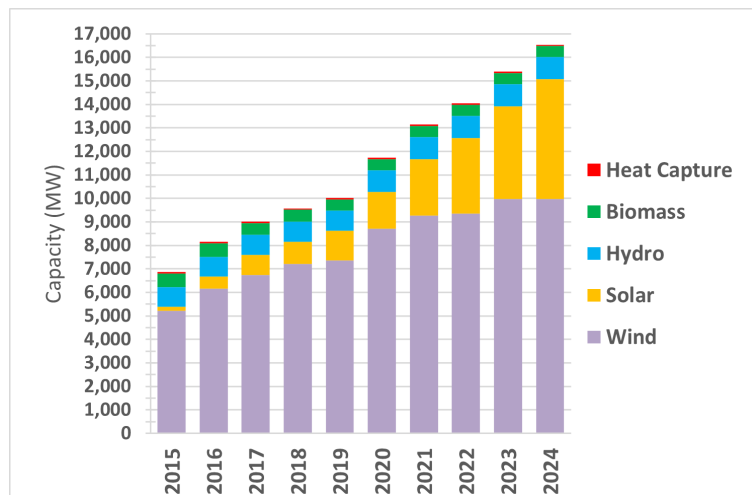


Figure 2: Cumulative Co-op Renewable Capacity Online (By Type, excluding federal hydro)

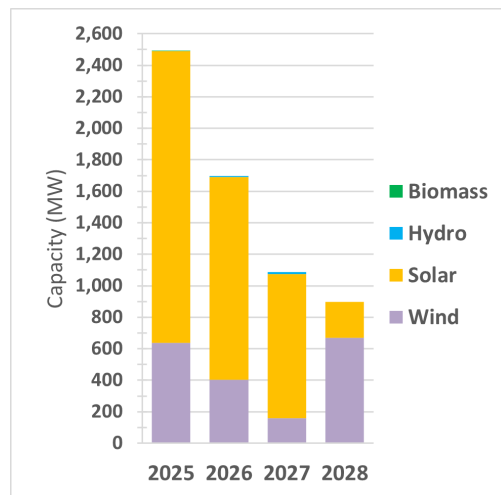


Figure 3: Planned Capacity by Year (By Type)

<sup>3</sup> Some co-ops sell the environmental attributes of power generated using renewable resources, and technologies are treated differently in varying states and markets.

<sup>4</sup> Including Green Power EMC, a green power program that secures renewable resources on behalf of 38 Georgia EMCs.

This shift from wind to solar growth follows national trends driven by the wider national solar resource footprint (e.g., solar has grown in the Southeast where the onshore wind resource is limited), as well as the previously mentioned federal tax policy differences. There is also an effort by grid planners in areas that initially saw significant wind adoption to increase solar deployment to balance wind generation daily (with solar producing during the day and wind producing more at night) and seasonally (with solar output higher in summer and wind output higher in cooler months). Using the complementarity of these resources helps ensure more predictable output from the combined portfolio or intermittent renewable generation.

### Most Growth has Come through Power Purchase Agreements

Most electric cooperatives are not-for-profit and exempt from federal taxes, which has historically made it difficult to directly access federal tax credits for renewable project development. For this and other reasons (e.g., lack of experience with operations & maintenance), co-ops have primarily used power purchase agreements (PPAs) to add new renewable resources, often sharing some of the benefits of the tax credits with the project owner through negotiated contract rates and provisions. Of the more than 16.5 gigawatts of non-federal co-op renewable capacity, about 14.7 gigawatts (89%) are under PPAs. While most planned new capacity is also from PPA projects, more than 670 megawatts (11%) of announced capacity is at co-op owned projects, primarily solar. See Figures 4 and 5.

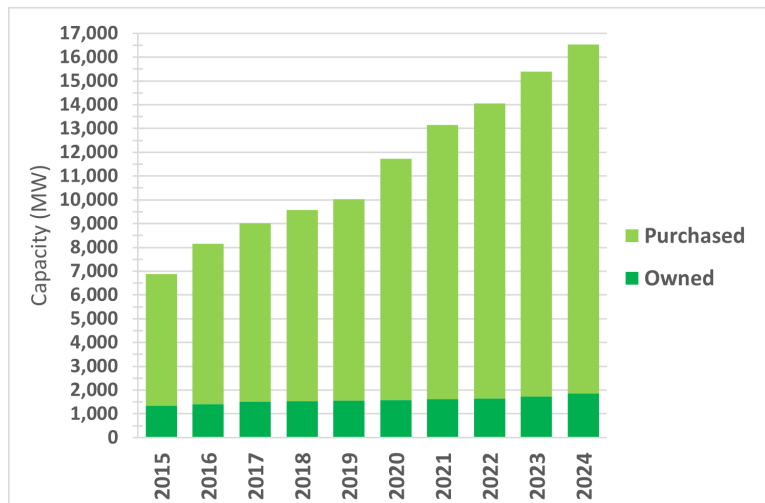


Figure 4: Cumulative Co-op Renewable Capacity Online (By Owned or Purchased through PPA, excluding Federal Hydro)

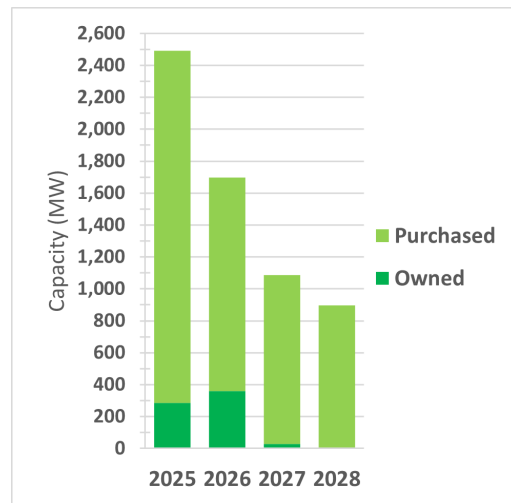


Figure 5: Planned Capacity by Year (By Owned or Purchased through PPA)

### Federal Support for Renewables

The Inflation Reduction Act (IRA) signed into law in August 2022 has had a significant impact in resource planning by electric cooperatives. As mentioned above, the restoration of previously expired tax credits for wind has contributed towards the announcement of several new wind projects by G&Ts. The extension of tax credits for solar has underpinned the continued buildout of solar PV by electric cooperatives. Wind and solar tax credits extend through 2024, to be replaced with technology-neutral tax credits for 2025-2032.

For electric cooperatives and rural public power utilities, the addition of elective pay<sup>5</sup> provisions for these tax credits have led to some G&Ts announcing that they would own and operate their own large solar projects, including the buy-out of some projects that were already under development as PPA projects. The standalone tax credit for battery energy storage systems has also driven growth in that space, increasing flexibility for both hybrid and standalone storage projects to help firm up intermittent resources.

Besides tax credits, the IRA funded two new major U.S. Department of Agriculture (USDA) programs. The first, Powering Affordable Clean Energy (PACE), set aside \$1 billion in partially forgivable loans for entities in rural areas, including electric cooperatives and rural public power districts, to deploy renewable generation and associated energy storage systems. The second program, Empowering Rural America (New ERA), set aside \$9.7 billion in grant and loan funding specifically for electric cooperatives to deploy new clean energy systems, including renewable generation. These USDA programs saw very strong interest by electric cooperatives, with nearly 50 G&Ts and distribution cooperatives selected for loan and grant funding.

NRECA is advocating to preserve the IRA’s grants, loans, and tax credits which are critical tools for electric cooperatives to build new resources at a cost that is affordable to members at the end of the line. These programs help support the pro-energy agenda for America’s Electric Cooperatives, as new generation resources of all kinds are needed to meet accelerating demand for electricity. The early impacts of these policies are captured in the U.S. Energy Information Administration’s latest *Short Term Energy Outlook*, which forecasts continued steady growth of wind capacity and a significant uptick in solar capacity through 2026.<sup>6</sup> See Figure 6.

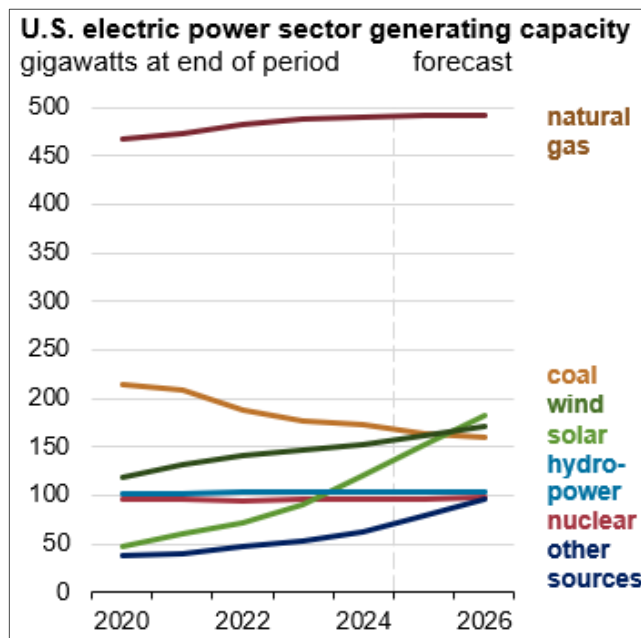


Figure 6: Forecast of Near-Term Capacity by Type  
Source: EIA Short Term Energy Outlook, April 2025

## Contact for Questions

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<sup>5</sup> Also known as direct pay, this allows tax-exempt electric cooperatives and public power utilities to receive the value of the relevant tax credits through direct federal payments.

<sup>6</sup> Historic and projected data from EIA’s April 2025 *Short Term Energy Outlook*. This report and the accompanying detailed data tables are available at: <https://www.eia.gov/outlooks/steo/outlook.php>.